

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Service Rules and Procedures to Govern the)	
Use of Aeronautical Mobile Satellite Service)	IB Docket No. 05-20
Earth Stations in Frequency Bands)	
Allocated to the Fixed Satellite Service)	

REPLY COMMENTS OF SES AMERICOM, INC.

SES Americom, Inc. (“SES Americom”), by its attorneys and pursuant to Section 1.415 of the Commission’s Rules, hereby replies to the comments of other parties in response to the Commission’s Notice of Proposed Rulemaking (“*Notice*”) in the above-captioned proceeding.¹

The record before the Commission strongly supports the development of rules that will permit the regular operation of aircraft earth station (“AES”) terminals using fixed satellite service networks pursuant to streamlined licensing procedures. Such procedures will permit U.S. operators to take advantage of the WRC-03 decision that created a framework for aeronautical mobile satellite service (“AMSS”) operations in FSS spectrum around the globe. As the Commission has recognized, expansion of AES operations will extend the reach of broadband services, benefiting both aircraft passengers and crew. *Notice* at ¶ 2. Furthermore, the

¹ *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, Notice of Proposed Rulemaking, IB Docket No. 05-20, FCC 05-14 (rel. Feb. 9, 2005).

comments demonstrate that AMSS networks can use FSS capacity without impairing existing services. The Commission should accordingly proceed with the adoption of rules to facilitate the deployment of AMSS networks.

I. THE RECORD SUPPORTS APPLYING PART 25 TECHNICAL STANDARDS TO AES TERMINALS

In its comments, SES Americom urged the Commission to develop rules for AMSS networks that would allow streamlined licensing of AES terminals that comply with baseline technical requirements. SES Americom Comments at 1-2. In particular, we stated that Part 25 technical requirements for VSAT systems are an appropriate template for AES terminal rules. *Id.* Other commenters agree that the VSAT rules should be the basis for AMSS requirements.

Off-axis EIRP density mask: The *Notice* sought comment on a Boeing proposal for aggregate off-axis EIRP density limits for AMSS systems as well as on an alternative proposal developed by the Commission for individual terminal limits. SES Americom argued in favor of adopting aggregate parameters to ensure that AMSS systems have the flexibility to assign power dynamically and maximize efficient use of their networks. SES Americom Comments at 3-4.

Several other commenters support adoption of aggregate limits, and some propose changes to the specific limits proposed by Boeing and incorporated in the *Notice*. ViaSat suggests that the AMSS requirements be conformed to the limits proposed for VSAT systems in the pending proceeding on earth station licensing

reform.² The proposed VSAT rule differs in two respects from Boeing's original proposal for aggregate AMSS limits: the antenna gain pattern envelope begins at 1.5° rather than 1°, and the maximum EIRP density is higher for off-axis angles greater than 85°. ViaSat Comments at 4-5. Other commenters make similar suggestions for changes in the aggregate formula.³

SES Americom strongly supports adoption of aggregate limits for AMSS networks that conform to the VSAT limits in the current earth station streamlining proceeding, as proposed by ViaSat. As ViaSat points out, “[a]s long as the power limits are met, the operation of AES terminals is no different, from the interference perspective of an adjacent spacecraft, than the operation of VSAT terminals.” ViaSat Comments at 4. Under these circumstances, there is no reason to adopt different requirements for AMSS networks than for VSAT terminals. The Commission should begin the AES antenna gain pattern envelope at 1.5° and provide higher limits for off-axis angles greater than 85° to align the AES rules with the VSAT limits.

² See ViaSat Comments at 4, *citing 2000 Biennial Regulatory Review – Streamlining and Other Revisions of Part 25 of the Commission’s Rules Governing the Licensing of, and Spectrum Usage by, Satellite Network Earth Stations and Space Stations*, IB Docket No. 00-248, Sixth Report and Order and Third Further Notice of Proposed Rulemaking, FCC 05-62 at ¶ 119 (rel. Mar. 15, 2005).

³ See Boeing Comments at 15-18 (suggesting change in angle at which the mask commences to 1.5° or 2° and higher limit for angles greater than 85°); Intelsat Comments at 3-4 (starting angle for mask should be 1.5°). *But see* PanAmSat Comments at 3 (supporting use of aggregate mask but stating that the limits should commence at 1° off-angle).

The record here also conclusively demonstrates that there is no basis for Telesat Canada's concern about the practicality of controlling an AMSS network's aggregate EIRP on a real-time basis (Telesat Canada Comments at 3). The current operators of AMSS systems make clear that their networks rely on sophisticated technology that is fully capable of monitoring and managing network-wide power levels. For example, ARINC explains that:

[T]he SKYLink system controls each AES individually so that its e.i.r.p. is the minimum amount needed to close the link to the satellite, while at the same time monitoring the aggregate spectral density to ensure compliance with the aggregate envelope and the protection of adjacent satellite operators. As the aggregate limit is approached, SKYLink prohibits additional simultaneous AES transmissions to maintain compliance with the aggregate mask.⁴

Moreover, the record highlights the importance of permitting AMSS network operators the latitude to manage their systems without artificial limitations. The comments show that requiring systems to comply with individual terminal limits, without the option to use proven techniques for controlling aggregate power levels, would unnecessarily foreclose certain system designs. *See, e.g.,* ViaSat Comments at 7. Boeing states that requiring each terminal to meet the same individual EIRP density limit "would seriously undermine the existing

⁴ ARINC Comments at 4-5 n.15. *See also* Boeing Comments at 21 ("concerns with respect to the ability of AMSS systems to control dynamically AES transmissions to meet aggregate off-axis e.i.r.p. limits are entirely unfounded"); ViaSat Comments at 6-7 (ViaSat's network management control center "would have the capability of controlling the network total aggregate EIRP density such that the aggregate limit is met for the network, while ensuring the most efficient distribution of power to terminals throughout the network").

operations and future development of AMSS systems in the United States.” Boeing Comments at 21.

In order to promote AMSS system deployment and the accompanying public interest benefits, the Commission should adopt the aggregate EIRP density mask proposed in the *Notice* as revised to conform to the pending VSAT rule.

Extended Ku-band operations: The comments reflect a consensus in support of SES Americom’s view that AMSS operations in the extended Ku-band should be permitted, and that the restriction in NG104 on domestic use of the band should not apply. SES Americom Comments at 4. ARINC, for example, notes that allowing AMSS systems access to the extended Ku-band “will facilitate more efficient and flexible operations both within the U.S. and abroad.” ARINC Comments at 25. Boeing concurs that AMSS systems require access to both standard and extended Ku-band spectrum “in order to provide seamless service around the world.” Boeing Comments at 8. Telesat Canada also supports extended Ku-band access and observes that “[s]ince operations would be on a non-protected basis, there should be no need to restrict usage in order to protect other primary services, for example through the application of footnote NG104.” Telesat Canada Comments at 2.

Certification procedure for non-routine applications: Finally, there is broad support in the record for the establishment of certification procedures to accommodate applications that are not eligible for streamlined processing. The parties agree with SES Americom’s position that the Commission should allow

operations that do not comply with applicable power limits if the operational levels have been cleared with the satellite licensees adjacent to the spacecraft being used for the AMSS service. *See* Boeing Comments at 23-25; Intelsat Comments at 5; PanAmSat Comments at 3-4. Accordingly, the AMSS rules should include procedures permitting operations in excess of the limits upon a demonstration that adjacent systems have agreed to the higher levels.

II. THE COMMISSION SHOULD APPLY ITS BLANKET LICENSING POLICIES TO AES TERMINALS

The record here also reflects unanimous support for the Commission's proposal to use its blanket licensing procedures for AES terminals. Telesat Canada, for example, observes that "it is appropriate for AES terminals to operate under blanket licensing rules, as licensing of individual terminals is likely to be both impractical and unnecessary." Telesat Canada Comments at 3. Boeing agrees that "the number and mobility of AES locations would make it impractical to license" AES terminals individually. Boeing Comments at 32. ViaSat and Intelsat also endorse blanket licensing procedures for AMSS (ViaSat Comments at 20; Intelsat Comments at 6), and no party opposes them.

The Commission should therefore adopt its proposal to apply blanket licensing procedures to AES terminal networks.

CONCLUSION

Consistent with the comments in this proceeding, the Commission should adopt licensing rules for AMSS networks to facilitate AES terminal deployment and ensure protection of existing FSS services.

Respectfully submitted,

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